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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/530,174

11/09/2005

Midori Araya

Q87222

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65565 7590 12/24/2008  
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EXAMINER

MARTIN, LAURA E

ART UNIT

PAPER NUMBER

2853

MAIL DATE

DELIVERY MODE

12/24/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/530,174	<b>Applicant(s)</b> ARAYA ET AL.	
	<b>Examiner</b> LAURA E. MARTIN	<b>Art Unit</b> 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 8, 11, 12, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A) in view of Kikuchi et al (US 6724999 B2) and Otsuki (US 2930696 B2).

As per claims 1 and 15: a printing apparatus for forming a dot in a desired position of a printing sheet by ejecting an ink droplet from a nozzle comprising: a static electricity eliminating mechanism (figure 1, element 12), which eliminates static electricity generated on the printing sheet by a conductive member (figure 1, element 14) that is arranged in a position to which the ink droplet is ejected (figure 1, element 311) from the nozzle or an upstream side of such position on a path which the printing sheet passes; and the conductive portion is formed in at least one of a sheet feed roller and an idle roller that carries the printing sheet [0014] and (figure 1, element 12).

As per claim 2: an earthing unit which earths the conductive member [0014].

As per claim 3: the conductive portion is formed in a sheet feed roller [0014] and (figure 1, elements 12 and 14).

As per claim 5: an earthing unit which earths the sheet feed roller constituting the conductive portion or an idle roller constituting the conductive portion [0014].

As per claim 8: the conductive member is a conductive member that is arranged in the position to which the ink droplet is ejected from the nozzle or the upstream side of such position on the path through which the printing sheet passes and is connected to a chassis that is different from a paper feed member (figure 1, element 15).

As per claim 11: a material of a member constituting the path through which the printing sheet passes is configured by selecting material that is near material of the printing sheet in a charging sequence table [0015] ("near" is not defined, and thus it could be almost any material).

As per claim 12: a surface of a member constituting the path through which the printing sheet passes is coated with material or a surfactant that is near material of the printing sheet in a charging sequence table [0015] ("near" is not defined, and thus it could be almost any material).

As per claim 18: the static electricity eliminating step is performed by a static electricity eliminating portion that is formed of a conductive member on which a plurality of projected portions arranged immediately before a nozzle position on a path through which the printing sheet passes are formed [0015] and (figure 1).

**Odai does not disclose the following claim limitations:**

As per claims 1 and 15: the sheet feed roller or the idle roller is formed by coating a predetermined insulating coating on a surface of a conductive rod-shaped member and wherein the conductive portion is formed by stripping off a part of the coating on the sheet feed roller or the idle roller.

**Kikuchi et al. disclose the following limitations:**

A roller formed by coating a predetermined insulating coating on a surface of a conductive rod shaped member (figure 1; column 3, line 66 – column 4, line 5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus taught by Odai with the disclosure of Kikuchi et al. in order to provide a reliable fixing operation for sheets of various kinds.

**Otsuki et al. disclose the following claim limitations:**

The conductive portion is formed by stripping off a part of the coating on the sheet feed roller or the idle roller (figure 8, element 25B).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus taught by Odai with the disclosure of Otsuki et al. in order to create a higher quality sheet feeding apparatus.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A), Kikuchi et al (US 6724999 B2) and Otsuki (US 2930696 B2) and further in view of Kakumori (JP 10-081008A).

**Odai as modified disclose the following claim limitations:**

As per claim 4: the printing apparatus of claim 1.

**Odai as modified do not disclose the following claim limitations:**

As per claim 4: the conductive portion is formed in an idle roller that pushes the printing sheet against the sheet feed roller with pressure.

**Kakumori discloses the following claim limitations:**

As per claim 4: the conductive portion is formed in an idle roller that pushes the printing sheet against the sheet feed roller with pressure (figure 2, elements 25, 24, and solution).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus taught by Odai as modified with the disclosure of Kakumori in order to reduce printing disorder.

Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A), Kikuchi et al (US 6724999 B2) and Otsuki (US 2930696 B2), and further in view of Kawaguchi et al. (US 2003/0030712 A1).

**Odai as modified disclose the following claim limitations:**

As per claim 6 and 7: the printing apparatus of claims 1 and 5.

As per claim 6: a sheet feed roller is formed by coating a predetermined insulating coating on the surface of a conductive rod-shaped member [0015] and (figure 1).

**Odai as modified do not disclose the following claim limitations:**

As per claim 6: the conductive portion is formed by stripping off a part of the coating on the sheet feed roller or the idle roller, and the rod-shaped member of the sheet feed roller or the idle roller is connected to the printing apparatus (figure 4) and [0037]; part of the roller is within the printing apparatus, therefore it is connected.

As per claim 7: a strip-off portion of the coating on the sheet feed roller is formed at least at two locations and wherein the idle roller is formed so as to push the printing sheet by the strip-off portion.

**Kawaguchi et al. disclose the following claim limitations:**

As per claim 6: the rod-shaped member of the sheet feed roller or the idle roller is connected to the printing apparatus.

As per claim 7: a strip-off portion of the coating on the sheet feed roller is formed at least at two locations and wherein the idle roller is formed so as to push the printing sheet by the strip-off portion.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus taught by Odai as modified with the disclosure of Kawaguchi et al. in order to reduce cost increase of the printer and to form high quality images.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A), Kikuchi et al (US 6724999 B2) and Otsuki (US 2930696 B2), and further in view of Kishi et al. (US 5623295 A).

**Odai as modified disclose the following claim limitations:**

As per claim 9: the printing apparatus of claim 8.

**Odai as modified do not disclose the following claim limitations:**

As per claim 9: the conductive member is a conductive member having a sharp tip; and wherein the sharp tip is arranged to be directed at the printing sheet.

**Kishi et al. disclose the following claim limitations:**

As per claim 9: the conductive member is a conductive member having a sharp tip; and wherein the sharp tip is arranged to be directed at the printing sheet (figure 1, element 102) and (column 5, lines 26-39).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus taught by Odai as modified with the disclosure of Kishi et al. in order to prevent reproduction errors.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A), Kikuchi et al (US 6724999 B2) and Otsuki (US 2930696 B2), and further in view of Sasaki et al. (US 2001/0038411 A1).

**Odai as modified disclose the following claim limitations:**

As per claim 10: the printing apparatus of claim 1.

**Odai as modified do not disclose the following claim limitations:**

As per claim 10: a plurality of projected portions are formed on a contact surface with which the printing sheet comes into contact on the path through which the printing sheet passes to reduce a contact area.

**Sasaki et al. disclose the following claim limitations:**

As per claim 10: a plurality of projected portions are formed on a contact surface with which the printing sheet comes into contact on the path through which the printing sheet passes to reduce a contact area [0192].



It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing apparatus taught by Odai as modified with the disclosure of Sasaki et al. in order to reduce the printing apparatus size while keeping a high quality image.

Claims 13, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Odai (JP 2000-043243 A) in view of Otsuki et al. (EP 1193072 A1).

**Odai as modified discloses the following claim limitations:**

The printing apparatus and method of claim 1 and 15.

**Odai as modified do not disclose the following claim limitations:**

As per claim 13: a printing unit which ejects the ink droplet from the nozzle to an area that is out of a size of the printing sheet.

As per claim 14: the ink absorbing member for the ink droplet ejected to an outside of the printing sheet is arranged on a platen.

As per claim 16: a printing mode in which the ink droplet is ejected from the nozzle to an area that is out of a size of the printing sheet.

**Otsuki discloses the following claim limitations:**

As per claim 13: a printing unit which ejects the ink droplet from the nozzle to an area that is out of a size of the printing sheet (figure 1, element 27r).

As per claim 14: the ink absorbing member for the ink droplet ejected to an outside of the printing sheet is arranged on a platen (figure 1, element 27r).

As per claim 16: a printing mode in which the ink droplet is ejected from the nozzle to an area that is out of a size of the printing sheet (figure 1, element 27r).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the printing unit taught by Odai as modified with the disclosure of Otsuki in order to allow effective edge printing.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-16 and 18 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURA E. MARTIN whose telephone number is (571)272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2853

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. E. M./  
Examiner, Art Unit 2853

Laura E. Martin

/Manish S. Shah/  
Primary Examiner, Art Unit 2853